Juxtaposing two game changing news items: 'good' and 'bad'

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Body

A hearty good morning folks! And here's hoping you had a great long weekend (and U2 show).

Juxtaposition

Today I highlight two stories that made the news in a rather subdued way recently. They were covered in the media, but sometimes media priorities are such that truly significant - even game-changing - stories get shorter shrift than they merit while other more standard fare hogs the headlines. It's understandable: after all, the 'will they or won't they default on debt' drama in Washington is a grabber even when nothing much new has actually happened. So is Jack Layton's forced hiatus. The deadly Oslo attacks too! It's not difficult to see why editors and pundits would relegate a story about an artificial windpipe to a lesser status in the science section. Ditto for yet another sprawling report on the state of the world's environment. But both deserve more notice. And they are revealing when juxtaposed. One is negative, exposing a worrisome aspect of human behaviour; the other is positive, highlighting our great ingenuity in creating a better future.

Game changer

On July 7, news broke that scientists had performed the world's "first transplant of an artificial organ." Right away, that needs clarifying. Artificial hearts, for example, have been previously transplanted, so the claim sounds false. But reading further we recognize what the surgeons and scientists achieved is indeed a game changing first. And unlike often seen hype predicting what will be common in the future based on little more than guesses, in this case the future is pulling into the station . . . windpipe first. For one thing, the patient, who had cancer in his windpipe and would have died without the operation, does not need anti-rejection drugs and there was no organ donor. Second, the scientists in London, England, 'built' the new windpipe. It can be done in as little as two days, thanks to advances in nanotechnology and stem cell use. The implications are enormous. This is a combination of 'building' and 'growing' body parts and organs, tailor made for a patient, within days. No donors, no real waiting or limit on how many transplants can be done. And no rejection since the patient's own stem cells are harvested and used.

How it was done

Here's how. The London scientists, guided by precise 3-D scans of the patient's existing windpipe, used very tiny glass beads (the nanotechnology) to build an exact replica of the windpipe (trachea). This fragile replica was taken to a hospital in Sweden for the operation. It was soaked in a solution of the patient's stem cells from his bone marrow, which coated all the porous parts of the bead model, divided and grew to seal all gaps off with essentially the patient's own tissue. (Nasal passage stem cells were used for required mucous lining). This produced a windpipe virtually identical to the patient's original. The rest was a matter of removing the diseased windpipe and replacing it with the new 'artificial' one. We can quibble how 'artificial' it actually is since it is mostly the patient's own cultured tissue, but I assume the word refers to the way it is created rather than its composition.

Where it leads

It doesn't take a lot of imagination to see where this kind of science - now a reality - is leading us. It's fast, it's likely to be done with other organs and the patient recovers relatively quickly. We are rapidly moving into a world where we simply build or grow new organs as patients need them. Just a month or two ago that was still largely the realm of science fiction. We humans are ingenious and can shape our future in positive ways.

But wait. . .

In late June an international panel on the world's oceans brought together data and research from around the world and issued a gloomy report that our planet's seas are in far worse shape than previously thought. With an accelerating rate of bad changes, our oceans could become terminally ill in as little as half a lifetime (50 years) if we don't start changing our ways fast. This may actually be a bigger threat than climate change, which is worrisome enough. Nor is a lot of this new. Putting the puzzle together for the big view, however, is new. Fish stocks are disappearing, pollution in the seas is high, the oceans are becoming significantly more acidic and on it goes. The loss of ocean species is so high that scientists think it may be the beginning of another 'mass extinction.' That's bad news for a fish-eating species such as ours. The timelines are educated guesses. There's no need to quibble about them. Even if the biggest threat is 100 years off, it's barely more than one person's lifetime. . . not a lot of time to change human behaviour and politics on a global scale. Humanity is not only stupidly destroying its own life-support systems, but is proving itself highly resistant to addressing the known problems. It's not a very encouraging portrait of ourselves.

The last word

Here is one of that oceans report authors, Dan Laffoley, marine chair of the World Commission on Protected Areas:

"But unlike previous generations, we know what now needs to happen. The time to protect the blue heart of our planet is now."

n Norbert Cunningham is a retired former editorial page editor of the Times &Transcript. His column appears here daily.

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